## **RAW SEQUENCE LISTING**

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Application Serial Number: 0580364Source: 017EDate Processed by SCORE: 06-13-08

## ENTERED

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<110> APPLICANT: CHILDREN'S MEDICAL CENTER CORPORATION
      BENOWITZ, LARRY I.
      FISCHER, DIETMAR
<120> TITLE OF INVENTION: METHOD FOR TREATING NEUROLOGICAL DISORDERS
<130> FILE REFERENCE: 701039-054381-PCT
<140> CURRENT APPLICATION NUMBER:10580364
<141> CURRENT FILING DATE:0001-01-01
<150> PRIOR APPLICATION NUMBER: PCT/US04/42255
<151> PRIOR FILING DATE: 2004-12-10
<150> PRIOR APPLICATION NUMBER: 60/529,833
<151> PRIOR FILING DATE: 2003-12-16
<160> NUMBER OF SEQ ID NOS: 18
<170> SOFTWARE: PatentIn Ver. 3.3
<210> SEQ ID NO 1
<211> LENGTH: 40
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEOUENCE: 1
      Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
      His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
                  20
      Leu Val Gln Lys Tyr Ser Asn Ser
<210> SEQ ID NO 2
<211> LENGTH: 25
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 2
      Ile Gln Lys Ser Asp Glu Gly His Pro Phe Arg Ala Tyr Leu Glu Ser
                                           10
      Glu Val Ala Ile Ser Glu Glu Leu Val
                   20
<210> SEQ ID NO 3
<211> LENGTH: 25
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 3
     Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu Leu Val Gln
      1 5
                                           10
     Lys Tyr Ser Asn Ser Ala Leu Gly His
                   20
<210> SEQ ID NO 4
<211> LENGTH: 25
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 4
      Ser Glu Glu Leu Val Gln Lys Tyr Ser Asn Ser Ala Leu Gly His Val
     Asn Cys Thr Ile Lys Glu Leu Arg Arg
                   20
<210> SEQ ID NO 5
<211> LENGTH: 25
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
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<400> SEQUENCE: 5
     Ala Leu Gly His Val Asn Cys Thr Ile Lys Glu Leu Arg Arg Leu Phe
      Leu Val Asp Asp Leu Val Asp Ser Leu
                  20
<210> SEQ ID NO 6
<211> LENGTH: 40
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 6
     Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
                                           10
     His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
                  20
                                       25
     Leu Val Gln Lys Tyr Ser Asn Ser
<210> SEQ ID NO 7
<211> LENGTH: 66
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 7
     Phe Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu
                                           10
     Gly His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu
                   20
                                       25
     Glu Leu Val Gln Lys Tyr Ser Asn Ser Ala Leu Gly His Val Asn Cys
                                   40
      Thr Ile Lys Glu Leu Arg Arg Leu Phe Leu Val Asp Asp Leu Val Asp
                               55
     Ser Leu
      65
<210> SEQ ID NO 8
<211> LENGTH: 473
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens
<400> SEQUENCE: 8
     Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val Leu
     Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala Cys Val
     Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln Gly Leu
     Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile Phe Leu
     His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg Ala Cys
     Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala Arg Ile
                                           90
     Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Glu Gln Leu Asp Leu
                                      105
      Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe His Gly
                                  120
     Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
                                                  140
     Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
                                              155
     Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp
                                          170
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Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Ser Ser
            180
                                185
Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
                                               205
       195
                           200
Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe Arg Asp
                       215
                                           220
Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Ala
                    230
                                       235
Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr Leu Arg
               245
                                   250
Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
                               265
Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Ser
                           280
                                               285
Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Ala Asn
                       295
Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro Ile Trp
                    310
                                       315
Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys Cys Cys
                325
                                    330
Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly Arg Pro
                                345
Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg Val Pro Pro Gly Asp Ser
                            360
                                                365
Pro Pro Gly Asn Gly Ser Gly Pro Arg His Ile Asn Asp Ser Pro Phe
                        375
                                            380
Gly Thr Leu Pro Gly Ser Ala Glu Pro Pro Leu Thr Ala Val Arg Pro
                    390
                                        395
Glu Gly Ser Glu Pro Pro Gly Phe Pro Thr Ser Gly Pro Arg Arg Arg
                                                        415
                405
                                    410
Pro Gly Cys Ser Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly
                                425
Gln Ala Gly Ser Gly Gly Gly Thr Gly Asp Ser Glu Gly Ser Gly
        435
                            440
Ala Leu Pro Ser Leu Thr Cys Ser Leu Thr Pro Leu Gly Leu Ala Leu
                        455
                                            460
Val Leu Trp Thr Val Leu Gly Pro Cys
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<210> SEQ ID NO 9

<211> LENGTH: 473

<212> TYPE: PRT

<213> ORGANISM: Mus musculus

<400> SEQUENCE: 9

 Met
 Lys
 Arg
 Ala
 Ser
 Ser
 Gly
 Gly
 Ser
 Arg
 Leu
 Leu
 Ala
 Trp
 Val
 Leu

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 Trp
 Leu
 Gln
 Ala
 Trp
 Arg
 Val
 Ala
 Thr
 Pro
 Cys
 Pro
 Gly
 Ala
 Cys
 Val

 Cys
 Tyr
 Asn
 Glu
 Pro
 Lys
 Val
 Thr
 Thr
 Ser
 Cys
 Pro
 Gln
 Gln
 Gly
 Leu

 Gln
 Ala
 Val
 Pro
 Ala
 Ser
 Ser
 Gln
 Arg
 Ile
 Phe
 Leu

 His
 Gly
 Asn
 Arg
 Ile
 Ser
 His
 Val
 Pro
 Ala
 Ala
 Ser
 Phe
 Gln
 Ser
 Cys

 Gly
 Asn
 Arg
 Ile
 Leu
 Trp
 Leu
 His
 Ser
 Asn
 Ala
 Leu
 Ala
 Ala
 Leu
 Ala
 Leu
 Ile

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135
    130
                                            140
Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
                   150
                                       155
Leu Gln Asp Asn Asn Leu Gln Ala Leu Pro Asp Asn Thr Phe Arg Asp
                                   170
               165
Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Pro Ser
                               185
Val Pro Glu His Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
                            200
                                               205
Leu His Gln Asn His Val Ala Arg Val His Pro His Ala Phe Arg Asp
                        215
                                            220
Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Met
                    230
                                        235
Leu Pro Ala Glu Val Leu Met Pro Leu Arg Ser Leu Gln Tyr Leu Arg
                245
                                    250
Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
                                265
Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Asn
                            280
Leu Pro Gln Arg Leu Ala Asp Arg Asp Leu Lys Arg Leu Ala Ala Ser
                        295
Asp Leu Glu Gly Cys Ala Val Ala Ser Gly Pro Phe Arg Pro Ile Gln
                    310
                                        315
Thr Ser Gln Leu Thr Asp Glu Glu Leu Leu Ser Leu Pro Lys Cys Cys
                325
                                    330
Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly Arg Pro
            340
                                345
                                                    350
Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg Val Pro Pro Gly Asp Thr
                            360
                                                365
Pro Pro Gly Asn Gly Ser Gly Pro Arg His Ile Asn Asp Ser Pro Phe
                        375
                                            380
Gly Thr Leu Pro Ser Ser Ala Glu Pro Pro Leu Thr Ala Leu Arg Pro
                    390
                                        395
Gly Gly Ser Glu Pro Pro Gly Leu Pro Thr Thr Gly Pro Arg Arg Arg
                405
                                    410
Pro Gly Cys Ser Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly
                                                    430
                                425
Gln Ala Gly Ser Gly Ala Ser Gly Thr Gly Asp Ala Glu Gly Ser Gly
        435
                            440
                                                445
Ala Leu Pro Ala Leu Ala Cys Ser Leu Ala Pro Leu Gly Leu Ala Leu
                        455
Val Leu Trp Thr Val Leu Gly Pro Cys
                    470
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<210> SEQ ID NO 10

<211> LENGTH: 344

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEOUENCE: 10

 Met
 Lys
 Arg
 Ala
 Ser
 Ala
 Gly
 Gly
 Ser
 Arg
 Leu
 Leu
 Ala
 Trp
 Val
 Leu

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Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Glu Gln Leu Asp Leu
            100
                                105
Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe His Gly
       115
                           120
                                               125
Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
                       135
                                           140
Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
                   150
                                       155
Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp
               165
                                   170
Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Ser Ser
                               185
Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
                            200
Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe Arg Asp
                        215
                                            220
Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Ala
                                        235
Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr Leu Arg
                245
                                    250
Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
                                265
Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Ser
                            280
                                                285
Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Ala Asn
                        295
                                            300
Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro Ile Trp
                    310
                                        315
                                                            320
Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys Cys
                325
                                    330
                                                        335
Gln Pro Asp Ala Ala Asp Lys Ala
            340
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<210> SEQ ID NO 11
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<sup>&</sup>lt;400> SEQUENCE: 11

SEQUENCE: 11															
Met 1	Lys	Arg	Ala	Ser 5	Ala	Gly	Gly	Ser	Arg 10	Leu	Leu	Ala	Trp	Val 15	Leu
Trp	Leu	Gln	Ala 20	Trp	Gln	Val	Ala	Ala 25	Pro	Сув	Pro	Gly	Ala 30	Cys	Val
Cys	Tyr	Asn 35	Glu	Pro	Lys	Val	Thr 40	Thr	Ser	Cys	Pro	Gln 45	Gln	Gly	Leu
Gln	Ala 50	Val	Pro	Val	Gly	Ile 55	Pro	Ala	Ala	Ser	Gln 60	Arg	Ile	Phe	Leu
His 65	Gly	Asn	Arg	Ile	Ser 70	His	Val	Pro	Ala	Ala 75	Ser	Phe	Arg	Ala	Cys 80
Arg	Asn	Leu	Thr	Ile 85	Leu	Trp	Leu	His	Ser 90	Asn	Val	Leu	Ala	Arg 95	Ile
Asp	Ala	Ala	Ala 100	Phe	Thr	Gly	Leu	Ala 105	Leu	Leu	Glu	Gln	Leu 110	Asp	Leu
Ser	Asp	Asn 115	Ala	Gln	Leu	Arg	Ser 120	Val	Asp	Pro	Ala	Thr 125	Phe	His	Gly
Leu	Gly 130	Arg	Leu	His	Thr	Leu 135	His	Leu	Asp	Arg	Cys 140	Gly	Leu	Gln	Glu
Leu 145	Gly	Pro	Gly	Leu	Phe 150	Arg	Gly	Leu	Ala	Ala 155	Leu	Gln	Tyr	Leu	Tyr 160
Leu	Gln	Asp	Asn	Ala 165	Leu	Gln	Ala	Leu	Pro 170	Asp	Asp	Thr	Phe	Arg 175	Asp
Leu	Gly	Asn	Leu	Thr	His	Leu	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	Ser

<sup>&</sup>lt;211> LENGTH: 310

<sup>&</sup>lt;212> TYPE: PRT

<sup>&</sup>lt;213> ORGANISM: Homo sapiens